

Notice of Allowability

Application No.

10/646,504

Applicant(s)

KOBAYASHI, FUJIIHIKO

Examiner

Art Unit

Phylesha L. Dabney

2614

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON-THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 11/21/06.
2. ☒ The allowed claim(s) is/are 1-12.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some* c) ☐ None of the:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date 12/14/06
4. ☒ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

QUOCTRAN
PRIMARY EXAMINER

DETAILED ACTION

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 23 October 2006 has been entered. Claims **1-12** are pending.

Election/Restrictions

Claims **1** and **5-7** including newly added claims **8-12** are allowable. Claims **2-4** were, previously withdrawn from consideration as a result of a restriction requirement, require all the limitations of an allowable claim. Pursuant to the procedures set forth in MPEP § 821.04(a).

The restriction requirement between inventions Species I-III, as set forth in the Office action mailed on 6 August 2005, is hereby withdrawn and claims 2-4 are hereby rejoined and fully examined for patentability under 37 CFR 1.104. In view of the withdrawal of the restriction requirement, applicant(s) are advised that if any claim presented in a continuation or divisional application is anticipated by, or includes all the limitations of, a claim that is allowable in the present application, such claim may be subject to provisional statutory and/or nonstatutory double patenting rejections over the claims of the instant application. Once the restriction requirement is withdrawn, the provisions of 35 U.S.C. 121 are no longer applicable. See *In re Ziegler*, 443 F.2d 1211, 1215, 170 USPQ 129, 131-32 (CCPA 1971). See also MPEP § 804.01.

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Attorney W. R. Duke Taylor on 12 December 2006.

Reasons For Allowance

The following is an examiner's statement of reasons for allowance: With respect to these claims, the instant applicant is deemed to be directed to a nonobvious improvement 6,694,038 (Azima) in view of 6,795,561 (Bank). The improvement comprises a piezo-electric speaker having a piezo-electric member for generating a vibration in accordance with an applied electric signal; and a piezo-electric vibration plate adhered to the piezo-electric member for converting the vibration to sound, the piezo-electric plate being divided into a plurality of plate members radially divided by lines radiating from substantially the center of the piezo-electric member and each plate member adhered to the piezo-electric member, wherein thickness of the piezo-electric vibration plate is changed in accordance with the distance from the vibration center of the piezo-electric member, as substantially described and connected with the other functional language of the recited claims.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue

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fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phylesha L. Dabney whose telephone number is 571-272-7494.

The examiner can normally be reached on Mondays, Tuesdays, Wednesdays, Fridays 8:30-4 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis Kuntz can be reached on 571-272-7499. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
P O Box 1450
Alexandria, VA 22313-1450

Or faxed to:

(703) 273-8300, for formal communications intended for entry and for informal or draft communications, please label "Proposed" or "Draft" when submitting an informal amendment.

Hand-delivered responses should be brought to:

Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

December 8, 2006

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QUOCTRAN
PRIMARY EXAMINER

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A piezo-electric speaker comprising:

a piezo-electric member for generating a vibration in accordance with an applied electric signal; and

a piezo-electric vibration plate adhered to said piezo-electric member for converting said vibration to sound, said piezo-electric plate being radially divided into a plurality of plate members ~~radially divided~~ by lines radiating from substantially the center of the piezo-electric member and each plate member adhered to said piezo-electric member wherein thickness of said piezo-electric vibration plate members are changed in accordance with the distance from the vibration center of said piezo-electric member.

2. (Original) The piezo-electric speaker according to claim 1, wherein the thickness of said piezo-electric vibration plate is decreased in proportion to the distance from the vibration center of said piezo-electric member.

3. (Original) The piezo-electric speaker according to claim 1, wherein the thickness of said piezo-electric vibration plate is uniform at a periphery of a portion connected to said piezo-electric member.

4. (Original) The piezo-electric speaker according to claim 1, wherein the thickness of said piezo-electric vibration plate is smaller at a periphery of a portion connected to said piezo-electric member than that of said portion connected to said piezo-electric member.

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5. (Previously Presented) The piezo-electric speaker according to claim 1, wherein said piezo-electric vibration plate members have arbitrary configurations and are connected by said piezo-electric member.

6. (Currently Amended) A piezo-electric speaker comprising:

a piezo-electric member for generating a vibration in accordance with an applied electric signal; and

a piezo-electric vibration plate adhered to said piezo-electric member for converting said vibration to sound, wherein said piezo-electric vibration plate is radially divided into several arbitrary parts ~~radially divided~~ by lines radiating from substantially the center of the piezo-electric member and the thickness of each of said several arbitrary parts of said piezo-electric vibration plates is different from each other.

7. (Previously Presented) The piezo-electric speaker according to claim 6, wherein an elastic member is adhered to a surface of each of said piezo-electric vibration parts on an opposite side of said piezo-electric member to provide a uniform thickness of each of said piezo-electric vibration plates.

8. (New) A piezo-electric speaker comprising:

a piezo-electric member for generating a vibration in accordance with an applied electric signal; and

a piezo-electric vibration plate adhered to said piezo-electric member for converting said vibration to sound, said piezo-electric plate being radially divided into a plurality of plate

members by lines radiating from a point on the piezo-electric member and each plate member adhered to said piezo-electric member wherein thickness of said piezo-electric vibration plate members are changed in accordance with the distance from the vibration center of said piezo-electric member.

9. (New) The piezo-electric speaker according to claim 8, wherein the thickness of said piezo-electric vibration plate is decreased in proportion to the distance from the vibration center of said piezo-electric member.

10. (New) The piezo-electric speaker according to claim 8, wherein the thickness of said piezo-electric vibration plate is uniform at a periphery of a portion connected to said piezo-electric member.

11. (New) The piezo-electric speaker according to claim 8, wherein the thickness of said piezo-electric vibration plate is smaller at a periphery of a portion connected to said piezo-electric member than that of said portion connected to said piezo-electric member.

12. (New) The piezo-electric speaker according to claim 8, wherein said piezo-electric vibration plate members have arbitrary configurations and are connected by said piezo-electric member.